

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-23. (Cancelled)

24. (Previously presented) A method for stable and efficient transformation of cardiomyocytes which comprises:

infusing a recombinant adeno-associated virus (AAV) vector into a coronary artery or a coronary sinus of an animal in an amount of about 1×10^5 to about 1×10^9 infectious units (IU) AAV per gram body weight and for a time sufficient to stably and efficiently transduce cardiomyocytes perfused through said artery or said sinus, wherein said AAV vector comprises at least one nucleic acid molecule operably linked to a control region, said nucleic acid molecule encoding an angiogenic protein, wherein at least 10% of the cardiomyocytes are transduced with the AAV and the AAV is present in the transduced cardiomyocytes for at least 4 weeks.

25. (Cancelled)

26. (Previously presented) The method of claim 24, wherein said AAV transduces at least about 40% of said cardiomyocytes.

27. (Cancelled)

28. (Previously presented) The method of claim 24, wherein said AAV is infused for at least about 2 minutes to about 30 minutes.

29. (Previously presented) The method of claim 24, wherein said AAV is infused for at least about 5 minutes to about 20 minutes.

30. (Previously presented) The method of claim 24, wherein said AAV is infused for about 15 minutes.

31. (Cancelled)

32. (Previously presented) The method of claim 24, wherein said amount of AAV is about 1×10^6 IU AAV per gram body weight to about 1×10^8 IU AAV per gram body weight.
33. (Previously presented) The method of claim 32, wherein said amount of AAV is about 6×10^7 IU AAV per gram body weight.
34. (Cancelled)
35. (Previously presented) The method of claim 28, wherein about 1×10^6 IU AAV per gram body weight to about 1×10^8 IU AAV per gram body weight is infused.
36. (Previously presented) The method of claim 35, wherein about 6×10^7 IU AAV per gram body weight is infused.
37. (Previously presented) The method of any one of claims 28, 35, or 36, wherein said AAV is infused for about 5 to about 20 minutes.
38. (Previously presented) The method of claim 37, wherein said AAV is infused for about 15 minutes.
39. (Previously presented) The method of claim 24, wherein about 6×10^7 IU AAV per gram body weight is infused for about 15 minutes.
40. (Previously presented) The method of claim 24, wherein said coronary artery is infused ex vivo or in vivo.
41. (Cancelled)
42. (Cancelled)
43. (Previously presented) The method of claim 24, wherein said angiogenic protein is FGF-1, FGF-2, FGF-5, VEGF, or HIF-1.
44. (Cancelled)

45. (Previously presented) The method of claim 24, wherein said cardiomyocytes are in an individual having a vascular condition selected from the group consisting of restenosis, atherosclerosis, congestive heart failure, ischemic cardiomyopathy, malignant arrhythmia, myocardial infarction, congestive heart failure, and dilated and hypertrophic cardiomyopathy.
46. (Cancelled)
47. (Cancelled)